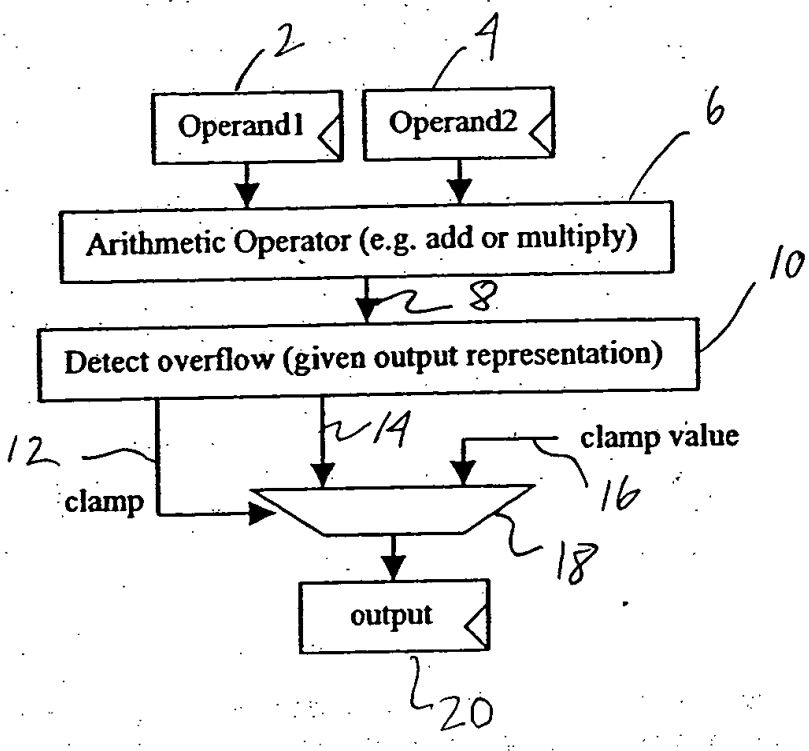

FIG. 1
(PRIOR ART)

0003803 - 5174960

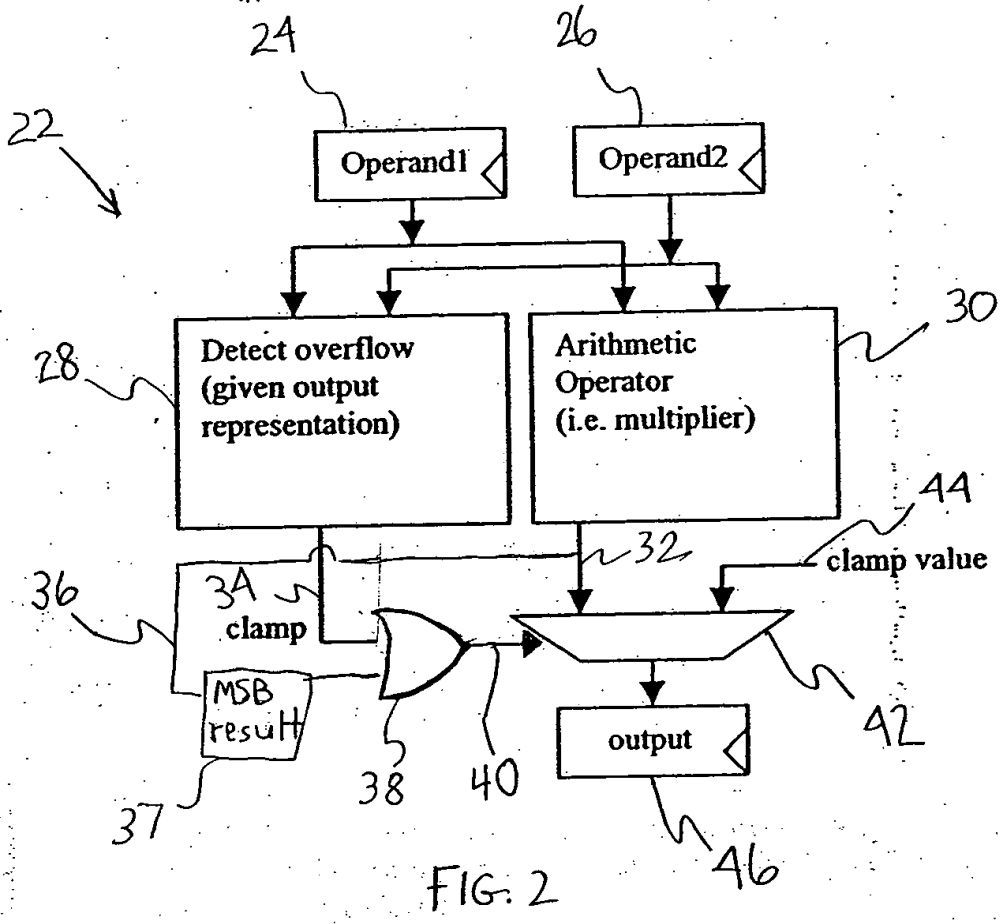
22
24
26
Operand1
Operand2
28
Detect overflow
(given output
representation)
30
Arithmetic
Operator
(i.e. multiplier)
44
clamp value
32
36
34
clamp
MSB
result
37
38
40
42
output
46

FIG. 2

	Clamp Case	Op1 >=	Op2 >=	Op1 leading zeros (47)	Op2 leading zeros (49)	Total leading zeros (51)
45a	1.	0.100000.0000	0.000010.0000	0	4	4
45b	2.	0.010000.0000	0.000100.0000	1	3	4
45c	3.	0.001000.0000	0.001000.0000	2	2	4
45d	4.	0.000100.0000	0.010000.0000	3	1	4
45e	5.	0.000010.0000	0.100000.0000	4	0	4

FIG. 3

DOCSBOS-5FS5

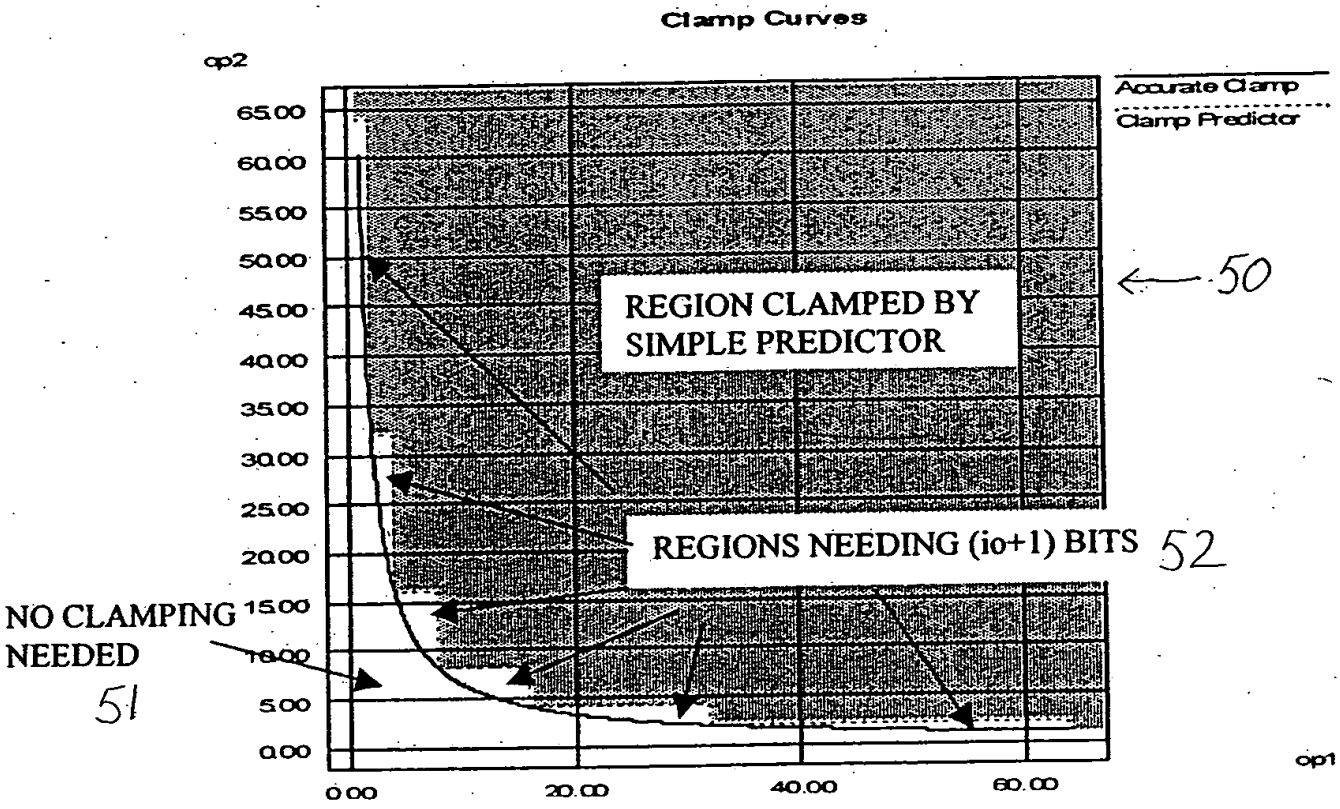
Clamp Curves
op2
65.00
60.00
55.00
50.00
45.00
40.00
35.00
30.00
25.00
20.00
15.00
10.00
5.00
0.00
0.00
20.00
40.00
60.00
op1
Accurate Clamp
Clamp Predictor
REGION CLAMPED BY SIMPLE PREDICTOR
50
REGIONS NEEDING (io+1) BITS
52
NO CLAMPING NEEDED
51

FIG. 4

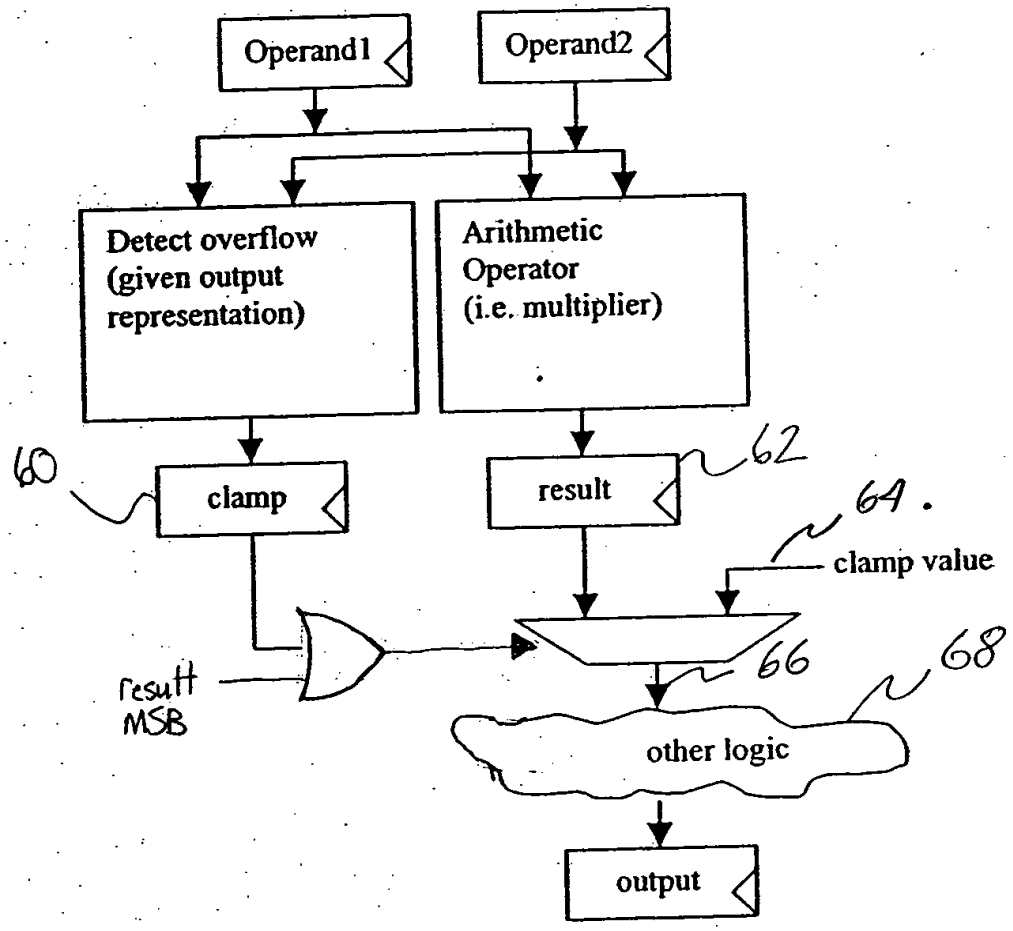
Operand1
Operand2
Detect overflow (given output representation)
Arithmetic Operator (i.e. multiplier)
60
clamp
result
62
64
clamp value
result MSB
66
68
other logic
output

FIG. 5